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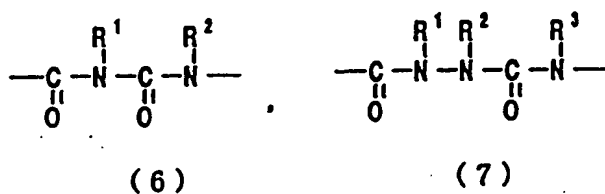
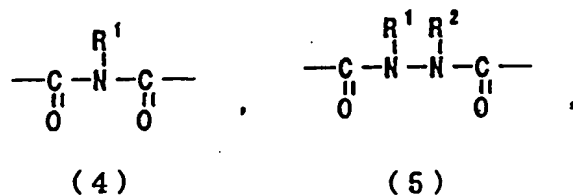
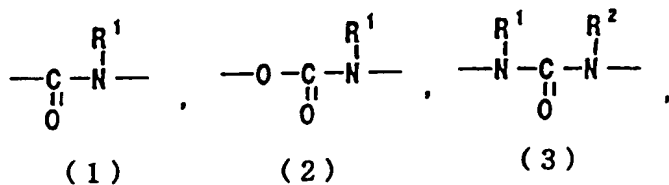
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**Amendments to the Claims:**

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A liquid crystal alignment agent used in a method for alignment of liquid crystal molecules that form a liquid crystal alignment film comprising irradiating a thin alignment film formed on a substrate with polarized light or electron rays and aligning the liquid crystal molecules on the substrate without any rubbing treatment, said liquid crystal alignment agent comprising a polymer compound selected from the group consisting of polyurethane and a polyurea comprising a structure selected from the group consisting of the general ~~formula~~-formulae (1) – (7) below



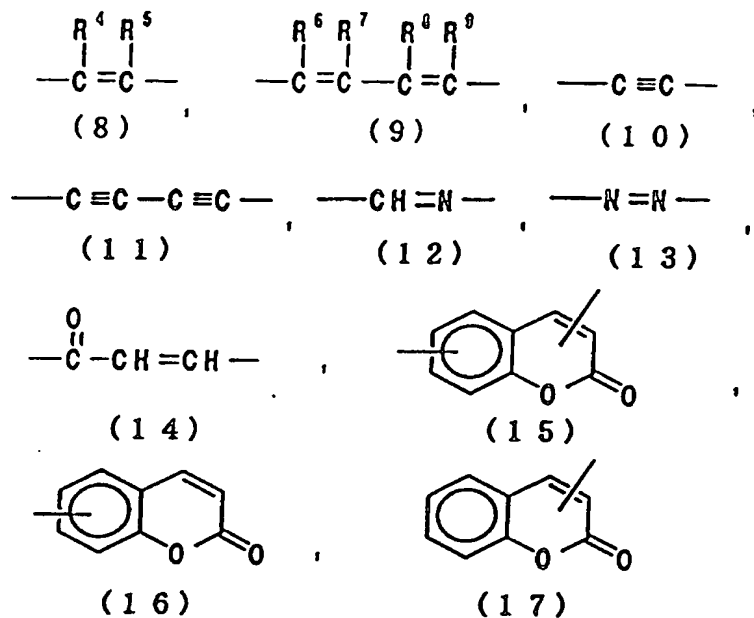
wherein,

R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are independently of each other hydrogen, alkyl, substituted alkyl, aryl or propargyl;

the polymer compound main chain has a number-average molecular weight of 1,000 – 300,000; and

said structure makes a direct bond with either a divalent or trivalent aromatic group at both ends or with a divalent or trivalent aromatic group at one end and a divalent or trivalent alicyclic hydrocarbon group at the other end.

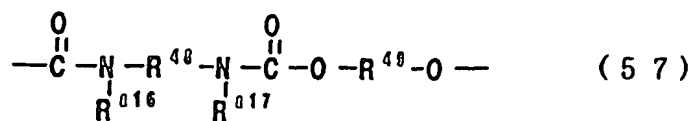
2. (Previously Presented) The liquid crystal alignment agent according to Claim 1, wherein the main chain or a side chain of the polymer have no functional groups shown in the general formula (8) – (17) below



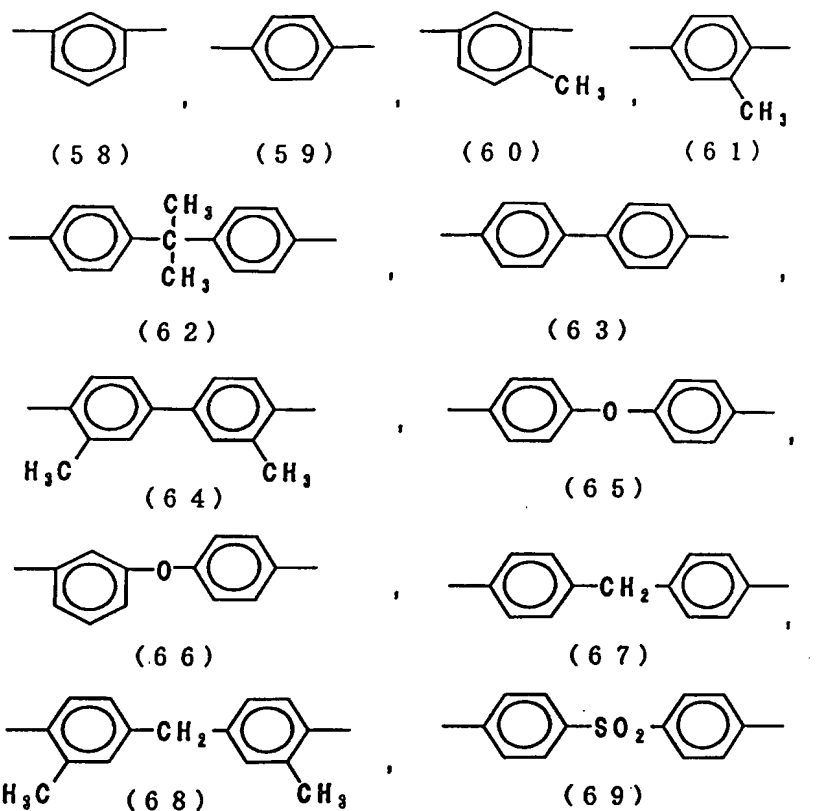
wherein  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$ ,  $R^8$  and  $R^9$  are independently of each other hydrogen, halogen, alkyl, substituted alkyl, substituted alkoxy, carboxyl, alkoxycarbonyl or a cyano group as a substituent group that may lead to a dimerization reaction or an isomerization reaction by the irradiation with light or electron rays.

3-10. (Canceled)

11. (Currently Amended) A liquid crystal alignment agent according to ~~Claim 10~~, Claim 1, wherein said polymer compound is polyurethane having a repeating unit comprising of the general formula (57) below



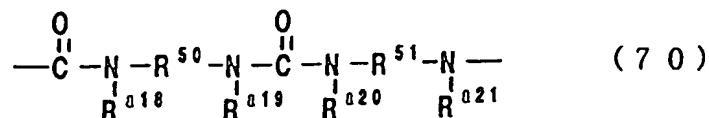
wherein,  $\text{R}^{48}$  and  $\text{R}^{49}$  are independently of each other selected from the radicals shown in the formula (58) - (69) below



wherein,  $\text{R}^{a16}$  and  $\text{R}^{a17}$  are independently of each other hydrogen, alkyl, substituted alkyl, aryl or propargyl.

12. (Canceled)

13. (Currently Amended) A liquid crystal alignment agent according to ~~Claim 12~~, Claim 1, wherein said polymer compound is polyurea having a repeating unit of the general formula (70) below



wherein,

$\text{R}^{50}$  and  $\text{R}^{51}$  are independently of each other selected from formula (58) - (69) above;

and

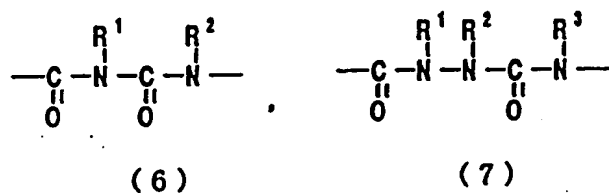
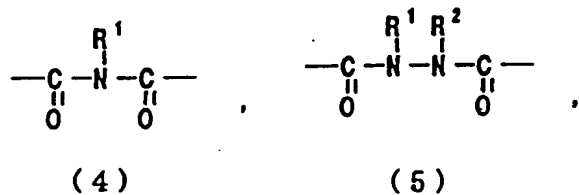
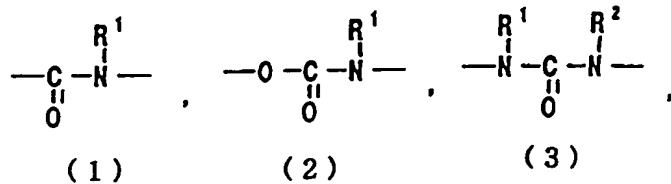
$\text{R}^{a18}$  -  $\text{R}^{a21}$  are independently of each other hydrogen alkyl, substituted alkyl, aryl or propargyl.

14. (Previously Presented) A liquid crystal device using the liquid crystal alignment agent according to Claim 1.

15. (Currently Amended) A liquid crystal alignment method characterized by the use of the liquid crystal alignment agent according to Claim 1, wherein polarized light or electron rays are irradiated over a thin polymer film formed on a surface of a substrate, achieving liquid crystal alignment without rubbing action.

16. (New) A liquid crystal alignment agent used in a method for alignment of liquid crystal molecules that form a liquid crystal alignment film comprising irradiating a thin alignment film formed on a substrate with polarized light or electron rays and aligning the liquid crystal molecules on the substrate without any rubbing treatment, said liquid crystal alignment agent comprising a polymer compound fulfilling all of the following conditions (A), (B), and (C):

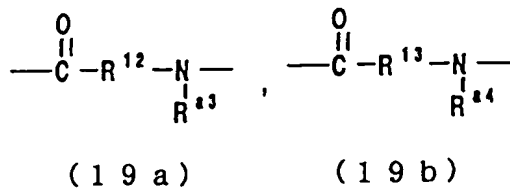
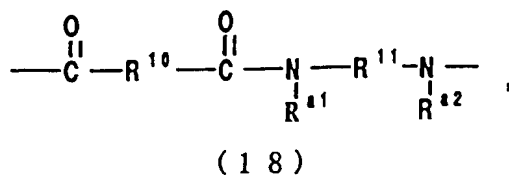
(A) the polymer compound has in the main chain thereof a structure selected from the group consisting of general formulae (1)-(7), the structure makes a direct bond with either a divalent or trivalent aromatic group at both ends or with a divalent or trivalent aromatic group at one end and a divalent or trivalent alicyclic hydrocarbon group at the other end:



wherein,

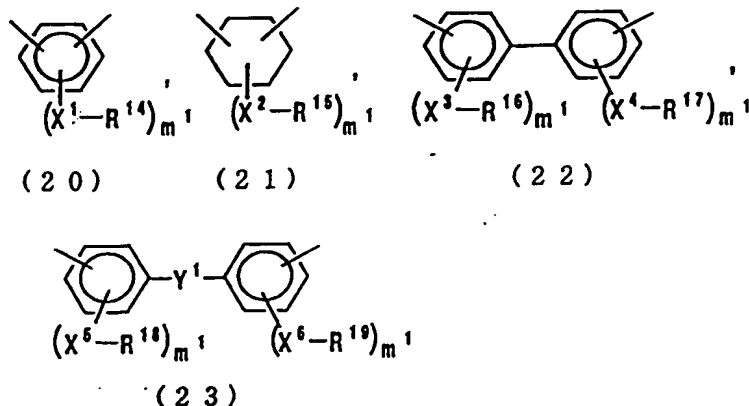
$\text{R}^1$ ,  $\text{R}^2$  and  $\text{R}^3$  are independently of each other hydrogen, alkyl, substituted alkyl, aryl or propargyl;

(B) the polymer compound is a polyamide having a repeating unit comprising of a general formula (18) or of a general formulae (19a) and (19b):



wherein,

$\text{R}^{10}$ ,  $\text{R}^{11}$ ,  $\text{R}^{12}$  and  $\text{R}^{13}$  are divalent organic radicals in the general formula (20) – (23)



wherein,

$X^1$ ,  $X^2$ ,  $X^3$ ,  $X^4$ ,  $X^5$  and  $X^6$  are independently of each other single bond, O,  $CO_2$ , OCO,  $CH_2O$ , NHCO or CONH;

$R^{14}$ ,  $R^{15}$ ,  $R^{16}$ ,  $R^{17}$ ,  $R^{18}$  and  $R^{19}$  are independently of each other hydrogen, halogen,  $C_1$ - $C_{24}$  alkyl,  $C_1$ - $C_{24}$  alkyl containing fluorine, aryl, propargyl, phenyl or substituted phenyl;

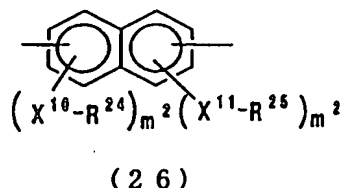
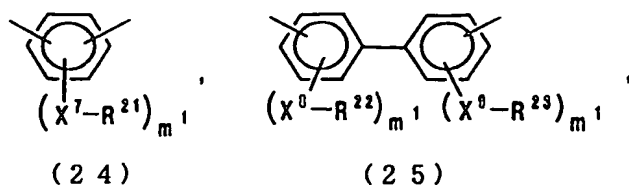
$Y^1$  is O, S, CO,  $CO_2$ ,  $SO_2$ ,  $CH_2$ , NH, NHCO,  $Y^2-Ar^1-Y^3$ ,  $Y^4-(CH_2)_{n^1}-Y^5$  or  $Y^6-Ar^2-R^{20}-Ar^3-Y^7$ ;

$Y^2$ ,  $Y^3$ ,  $Y^4$ ,  $Y^5$ ,  $Y^6$  and  $Y^7$  are independently of each other O, S, CO,  $CO_2$ ,  $SO_2$ ,  $CH_2$ , NH or NHCO;

$n^1$  is an integer of 1-10;

$R^{20}$  is  $C_1$ - $C_5$  straight or branched lower alkylene, fluoroalkylene or alkylenedioxy; and

$Ar^1$ ,  $Ar^2$  and  $Ar^3$  are independently of each other divalent organic radical in general formula (24), (25) or (26) below



wherein,

$X^7$ ,  $X^8$ ,  $X^9$ ,  $X^{10}$  and  $X^{11}$  are independently of each other single bond, O,  $\text{CO}_2$ ,  $\text{OCO}$ ,  $\text{CH}_2\text{O}$ ,  $\text{NHCO}$  or  $\text{CONH}$ ;

$R^{21}$ ,  $R^{22}$ ,  $R^{23}$ ,  $R^{24}$  and  $R^{25}$  are independently of each other hydrogen, halogen,  $\text{C}_1$ - $\text{C}_{24}$  alkyl,  $\text{C}_1$ - $\text{C}_{24}$  alkyl containing fluorine, aryl, propargyl, phenyl or substituted phenyl;

$m^1$  is an integer of 1 - 4, and  $m^2$  is an integer of 1 - 3;

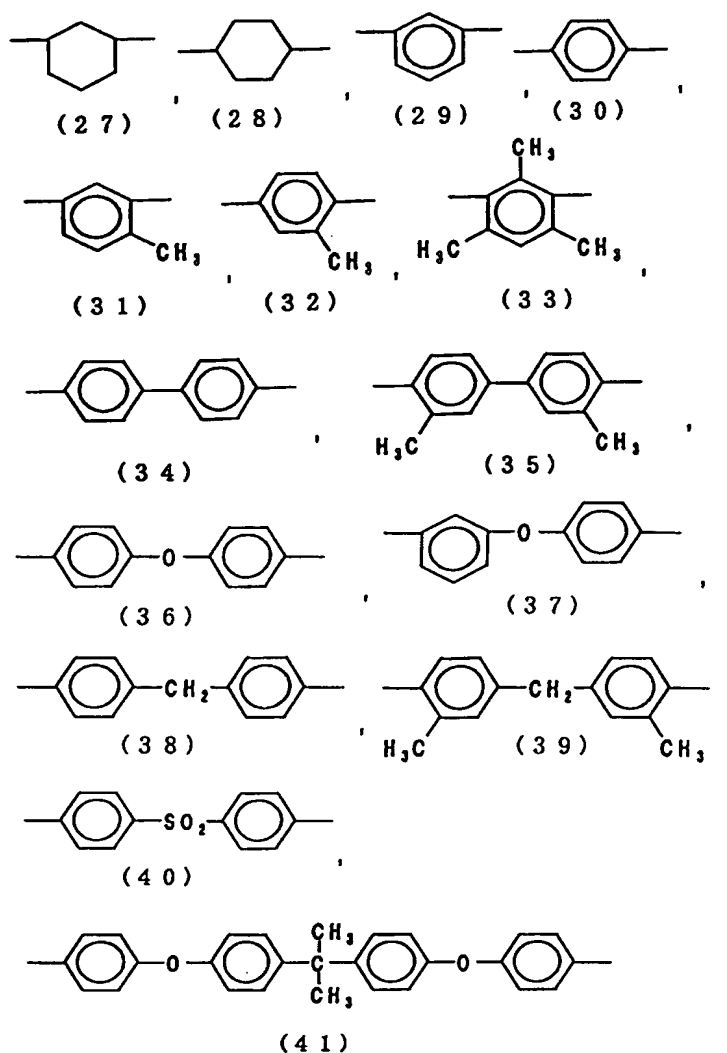
with the proviso that when  $R^{14}$ ,  $R^{15}$ ,  $R^{16}$ ,  $R^{17}$ ,  $R^{18}$ ,  $R^{19}$ ,  $R^{21}$ ,  $R^{22}$ ,  $R^{23}$ ,  $R^{24}$  and  $R^{25}$  are either hydrogen or halogen, then  $X^1$ ,  $X^2$ ,  $X^3$ ,  $X^4$ ,  $X^5$ ,  $X^6$ ,  $X^7$ ,  $X^8$ ,  $X^9$ ,  $X^{10}$  and  $X^{11}$  are single bond; and

$R^{a1}$ ,  $R^{a2}$ ,  $R^{a3}$  and  $R^{a4}$  are independently of each other hydrogen, alkyl, substituted alkyl, aryl or propargyl; and

(C) the polymer compound has a number-average molecular weight of 1,000 – 300,000.

17. (New) The liquid crystal alignment agent according to Claim 16, wherein  $R^{10}$  or  $R^{11}$  in the general formula (18) or  $R^{12}$  and  $R^{13}$  in the general formula (19a) and (19b) are independently of each other a radical selected from formulae (27) – (41) below

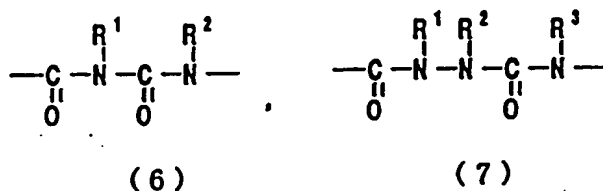
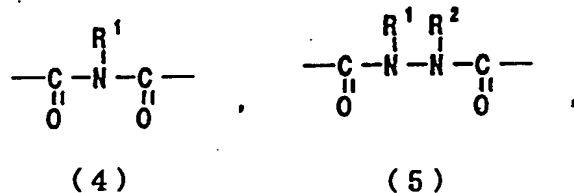
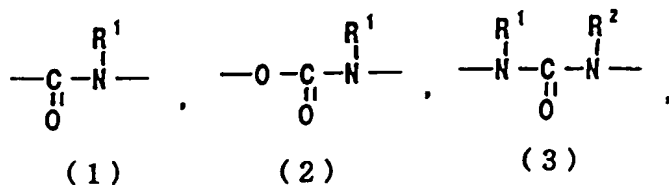




18. (New) A liquid crystal alignment agent used in a method for alignment of liquid crystal molecules that form a liquid crystal alignment film comprising irradiating a thin alignment film formed on a substrate with polarized light or electron rays and aligning the liquid crystal molecules on the substrate without any rubbing treatment, said liquid crystal alignment agent comprising a polymer compound fulfilling all of the following conditions (A), (B), and (C):

(A) the polymer compound has in the main chain thereof a structure selected from the group consisting of general formulae (1)-(7), the structure makes a direct bond with either a divalent or trivalent aromatic group at both ends or with a divalent or trivalent

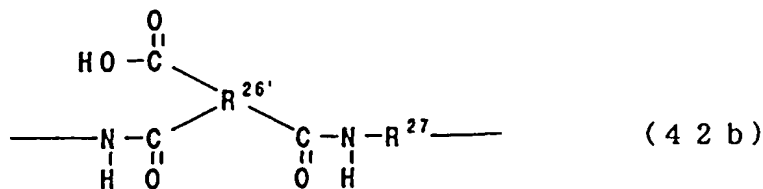
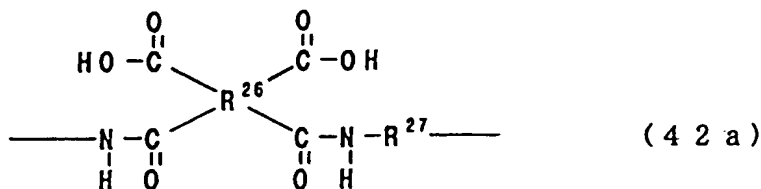
aromatic group at one end and a divalent or trivalent alicyclic hydrocarbon group at the other end:



wherein,

R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> are independently of each other hydrogen, alkyl, substituted alkyl, aryl or propargyl;

(B) the polymer compound is a polyimide precursor or a polyimide obtained by chemical heat or imidization of the polyimide precursor, with a repeating unit comprising of a general formula (42a) or (42b):

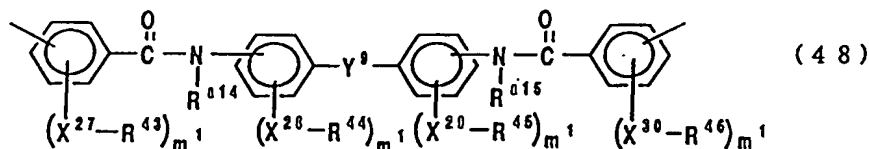
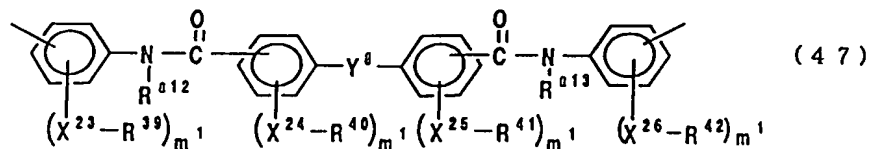
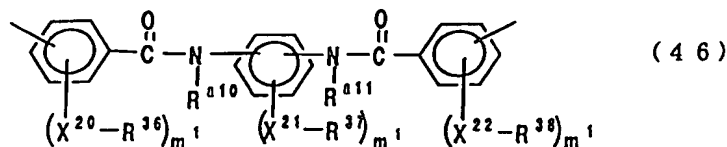
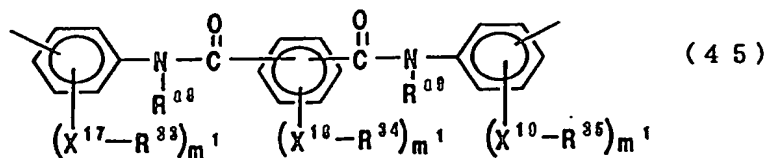
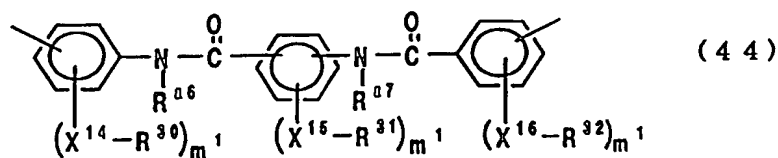
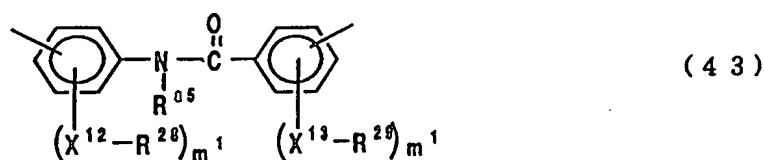


wherein,

$R^{26}$  is a tetravalent organic radical;

$R^{26'}$  is a trivalent organic radical; and

$R^{27}$  is a divalent organic radical containing an amide radical bonded with a divalent or trivalent aromatic or alicyclic hydrocarbon group, wherein  $R^{27}$  in the general formula (42a) and (42b) above is selected from the general formula (43) – (48) below



wherein,

$X^{12}$  -  $X^{30}$  are independently of each other single bond, O, CO<sub>2</sub>, OCO or CH<sub>2</sub>O;

$R^{28} - R^{46}$  are independently of each other hydrogen, halogen,  $C_1-C_{24}$  alkyl,  $C_1-C_{24}$  alkyl containing fluorine, aryl, propargyl, phenyl or substituted phenyl;

$R^{a5} - R^{a15}$  are independently of each other hydrogen, alkyl, substituted alkyl, aryl or propargyl;

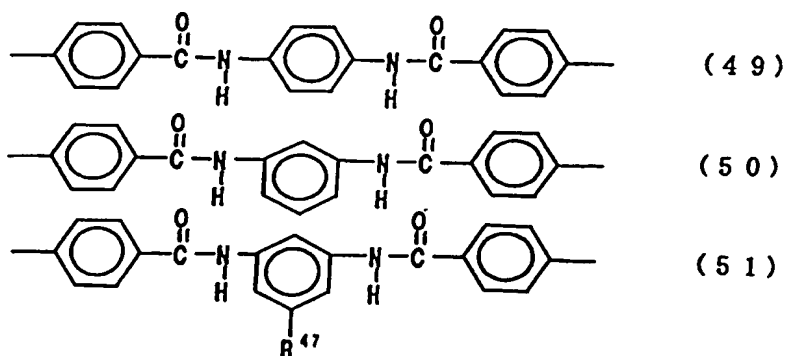
$Y^8$  and  $Y^9$  are O, S,  $SO_2$ ,  $CH_2$ , NH, NHCO or CONH; and

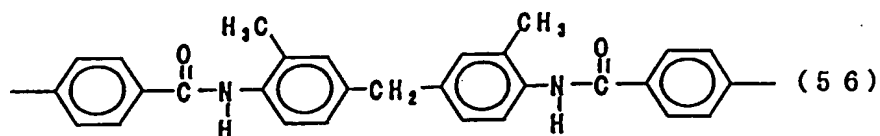
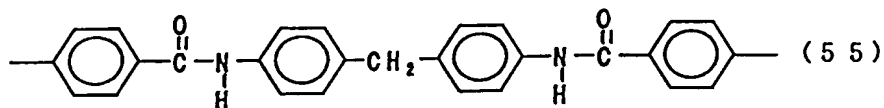
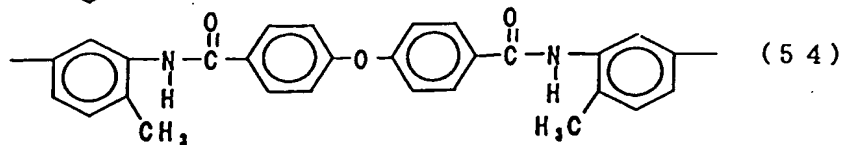
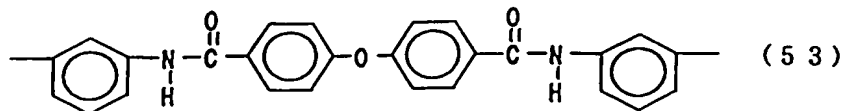
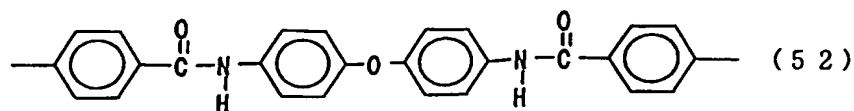
$m^1$  is an integer of 1 - 4;

with the proviso that when  $R^{28} - R^{46}$  are hydrogen or halogen, then  $X^{12} - X^{30}$  are single bond; and

(C) the polymer compound has a number-average molecular weight of 1,000 – 300,000.

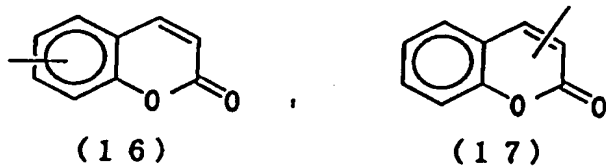
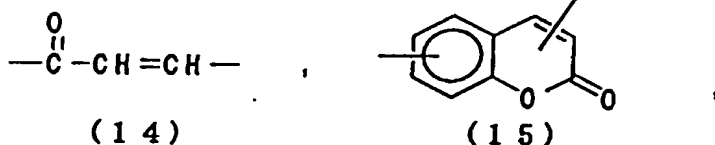
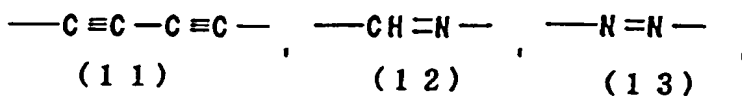
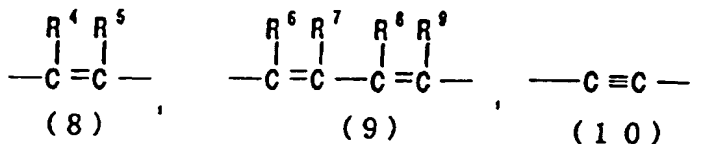
19. (New) The liquid crystal alignment agent according to Claim 18, wherein the radical for  $R^{27}$  in the general formulae (42a) and (42b) above is selected from the formulae (49) - (56) below





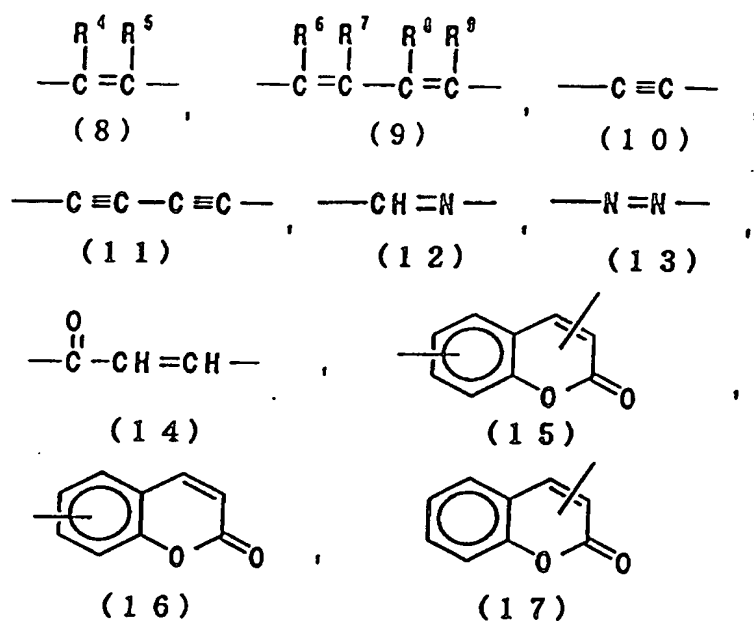
wherein,  $\text{R}^{47}$  is halogen,  $\text{C}_1\text{--C}_{24}$  alkyl,  $\text{C}_1\text{--C}_{24}$  alkoxy or  $\text{C}_1\text{--C}_{24}$  alkoxycarbonyl.

20. (New) The liquid crystal alignment agent according to Claim 16, wherein the main chain or a side chain of the polymer have no functional group of general formulae (8) – (17) below



wherein  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$ ,  $R^8$  and  $R^9$  are independently of each other hydrogen, halogen, alkyl, substituted alkyl, substituted alkoxy, carboxyl, alkoxy carbonyl or a cyano group as a substituent group that may lead to a dimerization reaction or an isomerization reaction by the irradiation with light or electron rays.

21. (New) The liquid crystal alignment agent according to Claim 18, wherein the main chain or a side chain of the polymer have no functional group of general formulae (8) – (17) below



wherein  $R^4$ ,  $R^5$ ,  $R^6$ ,  $R^7$ ,  $R^8$  and  $R^9$  are independently of each other hydrogen, halogen, alkyl, substituted alkyl, substituted alkoxy, carboxyl, alkoxy carbonyl or a cyano group as a substituent group that may lead to a dimerization reaction or an isomerization reaction by the irradiation with light or electron rays.

22. (New) A liquid crystal device using the liquid crystal alignment agent according to Claim 16.

23. (New) A liquid crystal device using the liquid crystal alignment agent according to Claim 18.

24. (New) A liquid crystal alignment method characterized by the use of the liquid crystal alignment agent according to Claim 16, wherein polarized light or electron rays are irradiated over a thin polymer film formed on a surface of a substrate, achieving liquid crystal alignment without rubbing action.

25. (New) A liquid crystal alignment method characterized by the use of the liquid crystal alignment agent according to Claim 16, wherein light or electron rays are irradiated over a thin polymer film formed on a surface of a substrate, achieving liquid crystal alignment without rubbing action.